

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

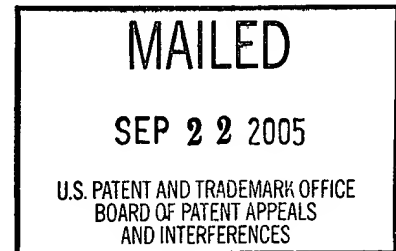
UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte TINKU ACHARYA, NILOY J. MITRA, and
PRABIR K. BISWAS

Appeal No. 2005-1886
Application No. 09/390,255

ON BRIEF



Before THOMAS, MacDONALD and NAPPI Administrative Patent Judges.

THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

Appellants have appealed to the Board from the Examiner's final rejection of claims 16 through 33.

Representative claim 16 is reproduced below:

16. A method comprising:

providing wavelet coefficients that indicate an image, the bits of each wavelet coefficient being associated with a different bit order so that each bit order is associated with one of the bits of each wavelet coefficient; and

for each said bit order, coding the associated bits to indicate zerotree roots that are associated with said bit order.

The following references are relied on by the Examiner:

Kolarov et al. (Kolarov)	6,144,773	Nov. 7, 2000 (filing date Feb. 27, 1996)
Zandi et al. (Zandi)	6,222,941	Apr. 24, 2001 (filing date Aug. 9, 1996)

Claims 16 through 33 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the Examiner relies upon Kolarov in view of Zandi.

Rather than repeat the positions of the appellants and the Examiner, reference is made to the Brief and Reply Brief for appellants' positions, and to the answer for the Examiner's positions.

OPINION

For the reasons set forth by Examiner in the answer, we sustain the rejection of claims 16 through 33 under 35 U.S.C. § 103.

At the outset, we address initially two preliminary issues. The present Brief and Reply Brief failed to bring to our attention a related appeal in which we rendered the decision on April 20, 2005, Appeal No. 2005-0377, regarding Serial No. 09/723,123. The appellants in this appeal are the same as in the prior appeal. According to 37 CFR § 1.192(c)(2) in effect at the time of the filing of the Brief and the Reply Brief, appellants have failed to bring this to our attention. In a related matter, 37 CFR also requires in Section 1.192(c)(5) that the Summary in the Invention in the principal Brief filed in this appeal present a concise explanation of the invention defined in the claims on appeal with references to the specification by page and line number and to the drawings. The present Summary of the Invention in this principal Brief presented in this appeal appears to comprise the entire specification rather than a concise explanation of the claimed invention.

In accordance with the grouping of the claims at the bottom of page 11 of the principal Brief of appeal, each of independent claims 16, 23 and 29 are to be considered separately among themselves as representative of the claims depending from them as well. Separate arguments in the Brief are presented as to these independent claims yet, as noted by the Examiner at pages 2 and 3 of the Answer, the arguments are substantially identical. This is so because the dispute as presented to us by appellants' arguments is the language at the end of representative independent claim 16 "for each said bit order, coding the associated bits to indicate zerotree roots that are associated with said bit order" which has corresponding language at the end of independent claims 23 and 29.

The Brief and Reply Brief do not argue that Kolarov and Zandi are not properly combinable within 35 U.S.C. § 103 to the artisan. Therefore, since no arguments are presented against the combination itself, inescapably we are left with the conclusion that appellants have not argued to us this aspect of the rejection of the claims on appeal under 35 U.S.C. § 103.

We agree with the Examiner's correlation of the teachings and suggestions of Kolarov and Zandi as outlined initially in the Answer on pages 4 through 9. For each detailed feature of the claims on appeal the Examiner has provided convincingly corresponding teachings and suggestions of the applied prior art and has devoted considerable detail in discussing the disputed clause at the end of each independent claim on appeal. Correspondingly as well, the Examiner's responsive arguments at pages 9 through 12 of the Answer address each and every argument presented by appellants in the arguments portion of the principal Brief on appeal. Since we have concluded that it appears to us that the Examiner has explained very well the manner in which he believes that the artisan would interpret the combined teachings of Kolarov and Zandi, these references together would have taught to the artisan the feature that for each bit order or level or position, the associated bits of the corresponding wavelet coefficients would be coded to indicate zerotree roots that are associated with the respective bit orders.

The premise or base of the Examiner's positions appears to be that the specific bitplane teachings of Kolarov relate to the recited bit order of each coefficient of the claims on appeal. It appears to us that appellants' positions in the principal Brief do not appear to correlate associated and related teachings but rather aim to consider the teaching value of the references separately. At least within Kolarov the tree structure related to wavelet coefficients leading to the zerotree algorithmic approach clearly indicates to the artisan that there are various levels with respect to the coding scheme. This is revealed in the abstract in Kolarov and the showings in Figure 2 and 6 and the detailed consideration of coding the tree within the various portions in Figure 3 relied upon by the Examiner. The Examiner indicated that certain teachings at column 5 of Kolarov's Summary of the Invention indicate that the wavelet coefficients are processed on a bitplane-by-bitplane basis which, as explained by the Examiner in the Answer, corresponds to the various levels of the claims on appeal and/or bit positions. The description of Figure 1d at column 9 of Kolarov correlates the coefficients to levels, which are known in the art to correspond to different resolutions in the coding scheme of the

image data. As revealed in the paragraph bridging columns 9 and 10, the Q-Tree in Figure 1d is known to encode physical locations of the coefficients themselves as noted in the second full paragraph at column 12 with respect to the showing in the Figure 3a level of the subdivision desired as identified in the coding process.

Correspondingly, in step 309 in this Figure the number of bit planes is identified as well. The discussion at column 16, lines 12 through 26, is also very instructive. As noted by the Examiner in the Answer, column 19 of Kolarvo indicates that the significance function $S(N)$ is itself zero if the bit at position N is a leading zero and the function itself for every descendant coefficients is also zero. As briefly set forth by the Examiner page 12 of the Answer, the Examiner views Kolarov as missing only an explicit teaching of using well known zerotree roots symbols as related to the coding of the bits. The Examiner also rightly notes in our view that Kolarov teaches a very similar system for coding the wavelet bits themselves that Zandi details. Since the claims themselves encompass multi bit wavelet coefficient encoding, both references are clearly applicable to the subject matter of claims on appeal.

On the other hand, Zandi's Figures 5 clearly shows the tree structure of wavelet coefficients in a manner corresponding to the showing in Kolarov at Figure 1d. Note the showings in Figures 6A and 6A-1 as well as Figure 6B-1 as related to the teaching begun at column 22, line 57 through the end of column 25. Figure 6A-1 and Figure 6B-1 both show that the specific code decision is made to code the zerotree root in a group of contexts as therefore well known according to the teaching in the beginning of column 23, line 7 that the zerotree coding approach actually codes symbolically the insignificant trees with a dedicated symbol, referred to as a zerotree root. According to the teachings in Zandi as well as the highly relevant teachings in Kolarov, we conclude as does the Examiner, that coding obviously would have been associated in Zandi with bitplanes of various orders or positions or levels of resolution desired.

In view of the foregoing, we do not agree with the appellants' assertions as to Zandi at page 2 of the Reply Brief essentially urging that the respective passages in Zandi relied upon by the Examiner do not teach or suggest to the artisan coding the bits to indicate

zerotree roots for a bit plane or level. Appellants' closing comments at page 3 of the Reply Brief are noted. However, the statement that the Examiner points out similar terms in Zandi and Kolarov that appear to correspond to isolated words in the claim language appears to admit that the Examiner's position is at least partially correct. On the other hand, it appears to us, that the Examiner's extensive analysis goes significantly beyond the mere assertion that isolated words in the claim language are correlated between the two references. It appears to us, therefore, that the Examiner has persuasively shown from the teaching value of both Kolarov and Zandi that the artisan would have considered obvious the subject matter argued with respect to representative claims 16, 23 and 29 on appeal.

In view of the foregoing, the decision of the Examiner rejecting claims 16 through 33 under 35 U.S.C. 103 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

James D. Thomas
Administrative Patent Judge


Allen R. MacDonald
Administrative Patent Judge


Robert Nappi
Administrative Patent Judge

BOARD OF PATENT APPEALS AND INTERFERENCES

JDT/jlb

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